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Association of vitamin D and calcium level with preeclampsia: a case control study in Qazvin, Iran

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Abstract:

Preeclampsia is a major complication of pregnancy. Although association of vitamin D and preeclampsia has been studied previously, their results are not consistent. The aim of this study was to investigate the relationship of vitamin D and calcium level with preeclampsia. This case control study was conducted in 149 pregnant women (75 normal, 46 mild preeclampsia, and 28 severe preeclampsia) in Qazvin, Iran. Serum vitamin D, calcium, and albumin were measured. Frequency of hypocalcemia and hypovitaminosis D were calculated. Logistic regression analysis was used to study the independent association of hypocalcemia and vitamin D levels with preeclampsia. Mean serum vitamin D level was 27.7 ± 15.3 , 22.9 ± 15.9 , 27.6 ± 16.6 in normal, mild preeclampsia, and severe preeclampsia groups and the difference between the groups was not significant. Vitamin D deficiency was not different between the groups. Hypocalcemia was associated with severe preeclampsia after adjustment for age, parity, and calcium supplement consumption (OR: 6.7, 95% CI: 1.45-30.79; P: 0.015). There was not any association between hypovitaminosis D and preeclampsia in present study, however low corrected serum calcium was associated with about 6 times chance of sever preeclampsia. More studies are needed to determine the role of hypocalcemia and vitamin D in preeclampsia.

Keywords:

Pre-Eclampsia, Vitamin D, Calcium, Pregnancy

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